United States Environmental Protection Agency
Region 4
Atlanta Federal Center
61 Forsyth St. SW, Atlanta, GA 30303-8960

July 26, 2022

MEMORANDUM (Draft)

SUBJECT: Comments on the Data Gap Response and Annual Groundwater Monitoring Report for the International Paper (IP) Site (LCRD site) at Wiggins, MS

FROM: Noman Ahsanuzzaman, PhD, PE
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ABU AHSANUZZAMAN Digitally signed by ABU AHSANUZZAMAN Date: 2022.08.11 11:49:46 -04'00'

THROUGH: Tim Frederick, Chief
Scientific Services Section
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Tim Frederick Digitally signed by Tim Frederick Date: 2022.08.11 11:45:47 -04'00'

TO: Maher Budeir
Project Manager

I have completed review of the response to Data Gap Investigation report and the annual groundwater monitoring report. Following are further comments on both reports.

1. IP claimed that presence of naphthalene is not enough to prove creosote migration, since the other creosote constituents were not present at the new well (i.e., WC-57). It should be noted that naphthalene is the major constituent of creosote and most mobile in groundwater; therefore, presence of naphthalene is enough to confirm existence of creosote. Presence of naphthalene at WC-57, which is located downgradient from the high concentration at WC-40 and screened at the bottom of the Citronelle formation, is indicative of plume expansion. Although the concentration of naphthalene is fluctuating above and below the GWPS (Ground Water Protection Standard) of 6.2 µg/L in recent sampling events, detection of naphthalene at this location makes the size of the plume larger than what was previously delineated.

2. If WC-57 well keep showing naphthalene concentration greater than the GWPS value, it can not be considered as sentinel well. In that case, additional downgradient well at

the bottom of the Citronelle formation would be necessary. Neither WC-44 nor WC-16 is screened at bottom of the Citronelle formation. In addition, groundwater flow direction from the high concentration at WC-40 is possibly passing through the area between WC-44 and WC-16. This area between WC-44 and WC-16 is suitable for installing a sentinel well, if necessary.

3. In reply to the question regarding thickness of the confining unit between the Citronelle aquifer and the Pascagoula formation, IP stated that the confining unit is continuous, and the thickness range from 25 to 100 ft. However, no reference to the boring logs used to support these findings were provided. More details supporting the continuity and thickness of the confining unit should be presented.

4. Contamination at greater depth around WC-40 could not be confirmed, since none of the surrounding wells (e.g., WC-45, 46, and 47) continued to the bottom of the Citronelle aquifer. Naphthalene concentration at the bottom of the Citronelle formation is unknown and it may have NAPL presence at depth. Any future remediation plan at this location should include further delineation of the plume in three dimensions.

5. Historical high concentrations from the 1980s are dominating the trend results. Trend analyses should also look at more recent trend in the past 5 to 10 years. Also, the units used in the trend plots and data tables should use 'µg/L' unit instead of 'mg/L'. The GWPS values are in µg/L.

If you have any questions, please feel free to email me at ahsanuzzaman.noman@epa.gov or call me at (404)562-8047.